

strong-sends-bound-property^{11,40}

$$\begin{aligned} & \forall E, X_1, X_2: \text{Type}, \text{info}: (E \rightarrow ((\text{Id} \times X_1) + (:\text{IdLnk} \times E) \times X_2)), \text{pred}?: (E \rightarrow (?E)), \\ & p: (\forall e: E, l: \text{IdLnk}. \\ & \quad \exists e': E \\ & \quad (\forall e'': E. \\ & \quad (\uparrow \text{rcv}?(e'')) \\ & \quad \Rightarrow (\text{sender}(e'') = e) \\ & \quad \Rightarrow (\text{link}(e'') = l) \\ & \quad \Rightarrow (((e'' = e') \vee e'' < e') \wedge (\text{loc}(e') = \text{destination}(l) \in \text{Id}))), \\ & r: E. \\ & \text{SWellFounded}(\text{pred}!(e; e')) \\ & \Rightarrow (\forall e: E. (\neg(\uparrow \text{first}(e))) \Rightarrow (\text{loc}(\text{pred}(e)) = \text{loc}(e) \in \text{Id})) \\ & \Rightarrow (\forall e, e': E. (\text{loc}(e) = \text{loc}(e') \in \text{Id}) \Rightarrow (\text{pred}?(e) = \text{pred}?(e')) \Rightarrow (e = e')) \\ & \Rightarrow (\uparrow \text{rcv}?(r)) \\ & \Rightarrow (r \\ & \quad \text{rel_star}(E; (\lambda x, y. (\neg(\uparrow \text{first}(y))) \text{ c} \wedge (x = \text{pred}(y) \in E))) \text{ sends-bound}(p; \\ & \quad \quad \text{sender}(r); \\ & \quad \quad \text{link}(r))) \end{aligned}$$